

Occurrence of the circumtropical shrimp *Stenopus hispidus* (Olivier, 1811) (Decapoda: Stenopodidae) on the Amazon reef system

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ABSTRACT

The circumtropical shrimp *Stenopus hispidus* (Olivier, 1811) (Stenopodidae Claus, 1872) is popularly known as “clown shrimp”. This species is very common in aquarium trade due to its ornamentation and easy capture on the coral reefs and rock substrates. *S. hispidus* is widely distributed in all oceans, including the oceanic islands. In Brazilian waters, its distribution covers the States of Ceará to Santa Catarina and the oceanic islands (Fernando de Noronha and Saint Peter and Saint Paul). Thus, we report the northernmost occurrence of *S. hispidus* in Brazil, on the great Amazon reef system. A specimen of *S. hispidus* was collected at 72 m of depth as shrimp fishery bycatch, at the continental shelf in State of Amapá (03°53 N; 50°19 W) in September of 2010. This new record consists of an important advance to the knowledge of the biodiversity of the Amazonian reefs and increases the crustaceans diversity from State of Amapá.

Keywords: Amazon reefs; Clown shrimp; Stenopodidean shrimp; New record.

Ocorrência do Camarão circumtropical *Stenopus hispidus* (Olivier, 1811) (Decapoda: Stenopodidae) no sistema de recifes da Amazônia

RESUMO

O camarão circumtropical *Stenopus hispidus* (Olivier, 1811) (Stenopodidae Claus, 1872) é popularmente conhecido como “camarão palhaço”. Esta espécie é muito comum em comércios de aquários devido a sua ornamentação e fácil captura em recifes de corais e substratos rochosos. *S. hispidus* está amplamente distribuído em todos os oceanos, incluindo ilhas oceânicas. Em águas brasileiras, sua distribuição cobre os Estados do Ceará a Santa Catarina e ilhas oceânicas (Fernando de Noronha e São Pedro e São Paulo). Contudo, nos reportamos à ocorrência mais ao norte do camarão *S. hispidus* para o grande sistema de recifes da Amazônia. Um espécime de *S. hispidus* foi coletado a 72 m de profundidade como fauna acompanhante da pesca de camarão, na plataforma continental do Estado do Amapá (03°53 N; 50°19 W) em Setembro de 2010. Esse novo registro, consiste em um importante avanço no conhecimento da biodiversidade dos recifes amazônicos e aumenta a diversidade de crustáceos para o Estado do Amapá.

Palavras-chave: Recifes Amazônicos, Camarão Palhaço, Camarão Stenopodídeo, Novo registro.

The Amazon reef system is an ecosystem found along of the Amazon River Mouth formed by biogenic reefs, which are responsible for supporting an incredible biodiversity, composed by several species of vertebrates and invertebrates, many of them still unknown to the science (COLLETTE; RUETZLER, 1977; MOURA et al., 2016). Up to date, this region is being widely explored by the fishing activities, which associated with the target species of fishing (e.g. prawns, shrimps and commercial fishes), are captured many others species as bycatch, generating a overexploitation especially in invertebrates occurring in this ecosystem (BENTES et al., 2019; SANTOS et al., 2019).

The family Stenopodidae Claus, 1872, is composed by three genera: *Odontozona* Holthuis, 1946, *Richardina* A. Milne-Edwards, 1881 and *Stenopus* Latreille, 1819, totalling 37 valid species. *Stenopus* is commonly found associated with shallow coral reefs along tropical areas; *S. hispidus* is a strong component in aquarium trade due to its body coloration and easy capture in costal reefs (ZHANG et al., 1998; GREGATI et al., 2006). In Brazilian waters, *S. hispidus* is widely distributed from States of Ceará to Santa Catarina, with occurrence reports in Fernando de Noronha and Saint Peter and Saint Paul (GREGATI et al., 2006; GIRALDES; FREIRE, 2015; TAVARES et al., 2017). However, in states of northern Brazil, especially along the Amazon River Plume these records are nonexistent. Thus, we report the northernmost occurrence of circumtropical shrimp *S. hispidus* in Brazilian waters, at the great Amazon reef system.

The specimen of *S. hispidus* was collected as bycatch during commercial shrimp fisheries operations at the continental shelf of State of Amapá (under influence of Amazon River Plume). For the samples was used a shrimp trawling net, between depths of 16 and 97 m, in September 2010 (SISBIO Number: 44915-3). After the samples, the individual was sorted out, identified following Goy (1992) and measured in: Total Length (TL) - distance between the rostrum and the posterior edge of the telson, and Carapace Length (CL) - distance between the rostrum and the posterior edge of the carapace. The specimen was preserved in 70% ethyl alcohol and stored at the carcinological collection of the Carcinology Laboratory Federal Rural University of Amazonia.

It was examined one ovigerous female (Fig. 1) (TL: 6.2 cm; CL: 2.7 cm), collected in gravel bottom (associated with coral reefs) at 72 m of depth using shrimp trawling net, State of Amapá (03°53 N; 50°19 W) (Fig. 2), 31.ix.2010, (Voucher Number: 85.1.1 A.). *S. hispidus* occurs from shallow waters to depths of 210 m (FAXON, 1896; TAVARES et al., 2017), following coral reefs or rocks formations along the continental shelf (HOLTHUIS, 1946; CHACE, 1972; GREGATI et al., 2006; GIRALDES; FREIRE, 2015; TAVARES et al., 2017). According to TAVARES et al. (2017), the specimens are usually found alone beneath a zoanthid colony, in cavities from shallow rocky environments or among seaweeds, however in reproductive periods it is possible to find them in pairs (CHOCKLEY; ST. MARY, 2003; GREGATI et al., 2006; TAVARES et al., 2017).



Figure 1. *Stenopus hispidus* (Olivier, 1811) (ovigerous female), collected in gravel bottom of corals, at 72 m of depth using the shrimp trawling net in State of Amapá. Scale bar = 1 cm. / **Figura 1.** *Stenopus hispidus* (Olivier, 1811) (fêmea ovígera), coletada em fundo cascalhoso de corais, a 72 m de profundidade usando rede de arrasto de camarão, no Estado do Amapá. Escala da Barra = 1 cm.

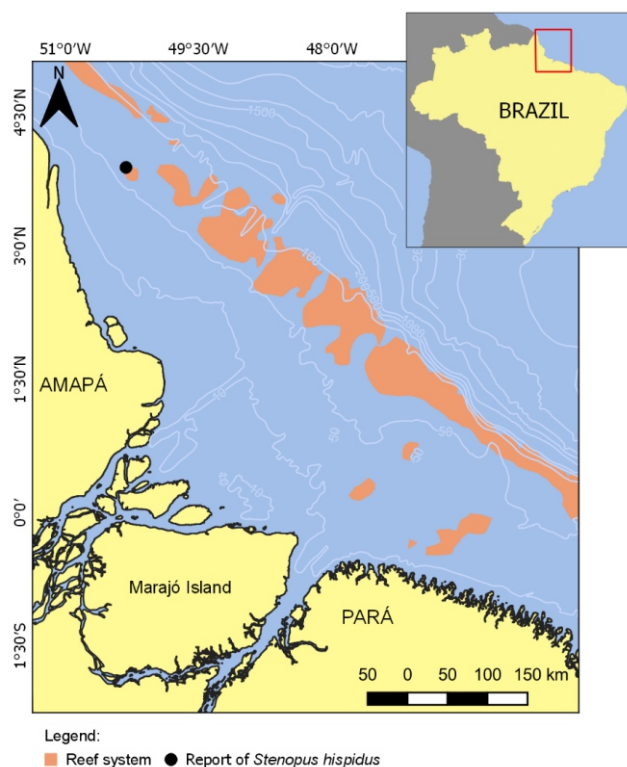


Figure 2. Occurrence of *Stenopus hispidus* (Olivier, 1811), on the Amazon reefs (mapped by Moura et al., 2016) in State of Amapá. / **Figura 2.** Ocorrência do *Stenopus hispidus* (Olivier, 1811), sobre os recifes Amazônicos (mapeado por Moura et al., 2016) no Estado do Amapá.

Despite the occurrence in all oceans, in Atlantic Ocean *S. hispidus* occurs only in Western and Central margins, with disjunct distribution as: Bermuda, North Carolina to southern Florida, Gulf of Mexico, Caribbean Sea, Brazilian coast (Amapá (present study), Ceará to Santa Catarina and covering the Oceanic Islands: Fernando de Noronha and Saint Peter and Saint Paul, Vitória-Trindade Seamount Chain (Jaseur) and Trindade), Ascension and St. Helena islands (HOLTHUIS, 1946; CHACE, 1972; GOY, 1987; MANNING; CHACE, 1990; COELHO; RAMOS-PORTO, 1998; GREGATI et al., 2006; ALMEIDA et al., 2007; FELDER et al., 2009; GIRALDES; FREIRE, 2015; SOLEDADE et al., 2015; TAVARES et al., 2017). In Indo-Pacific region, records were observed in South Africa, Red Sea, Japan, Tuamotu Archipelago, Western Australia, eastern Australia, Vanuatu, New Hebrides, New Caledonia, Lord Howe Island, northern New Zealand, Panama and Galápagos (TAVARES et al., 2017). The present report (State of Amapá) fills a gap on the distribution of *S. hispidus* in Brazilian waters, and increase the species occurrence range around 1300 km towards the northern Brazil.

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